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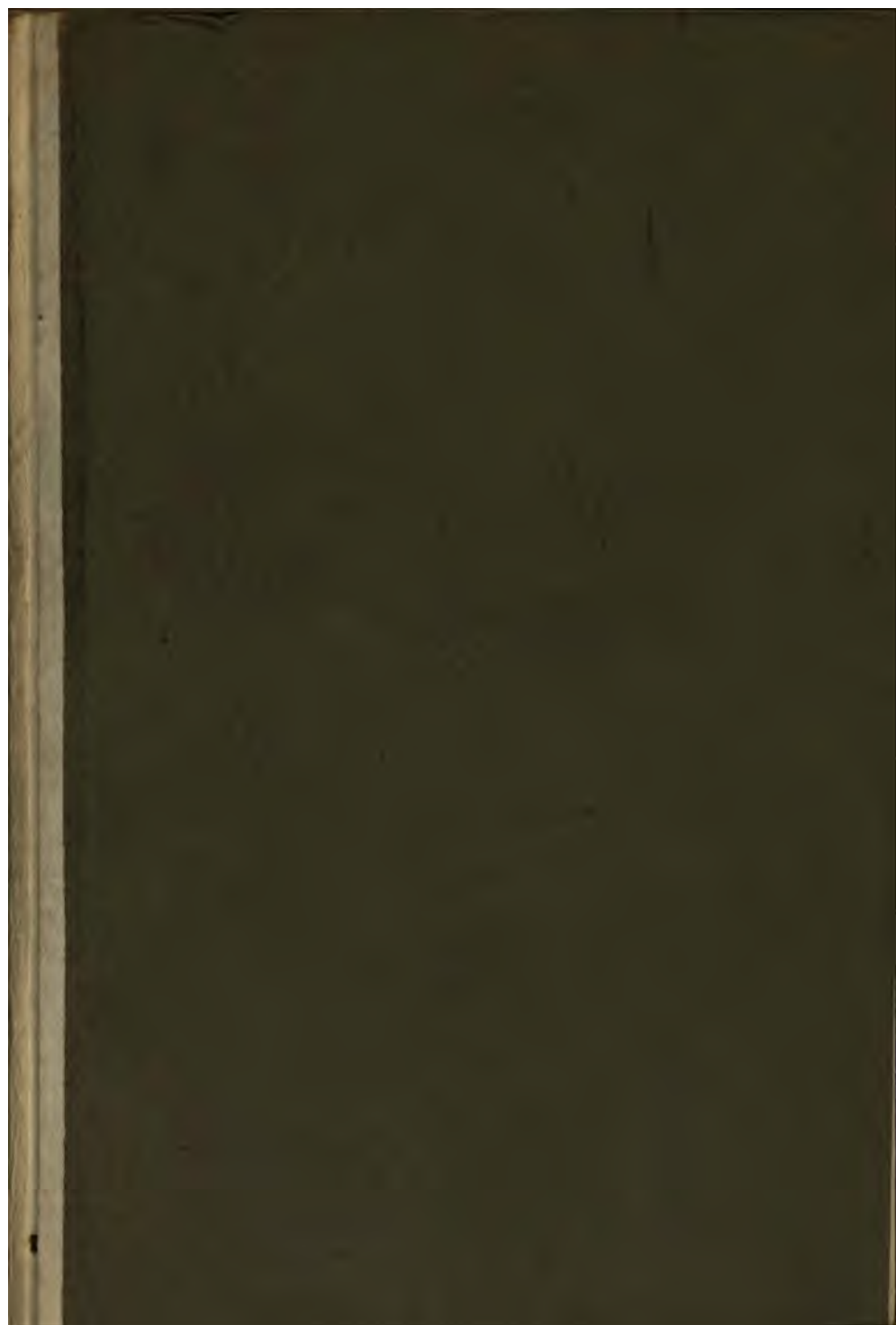
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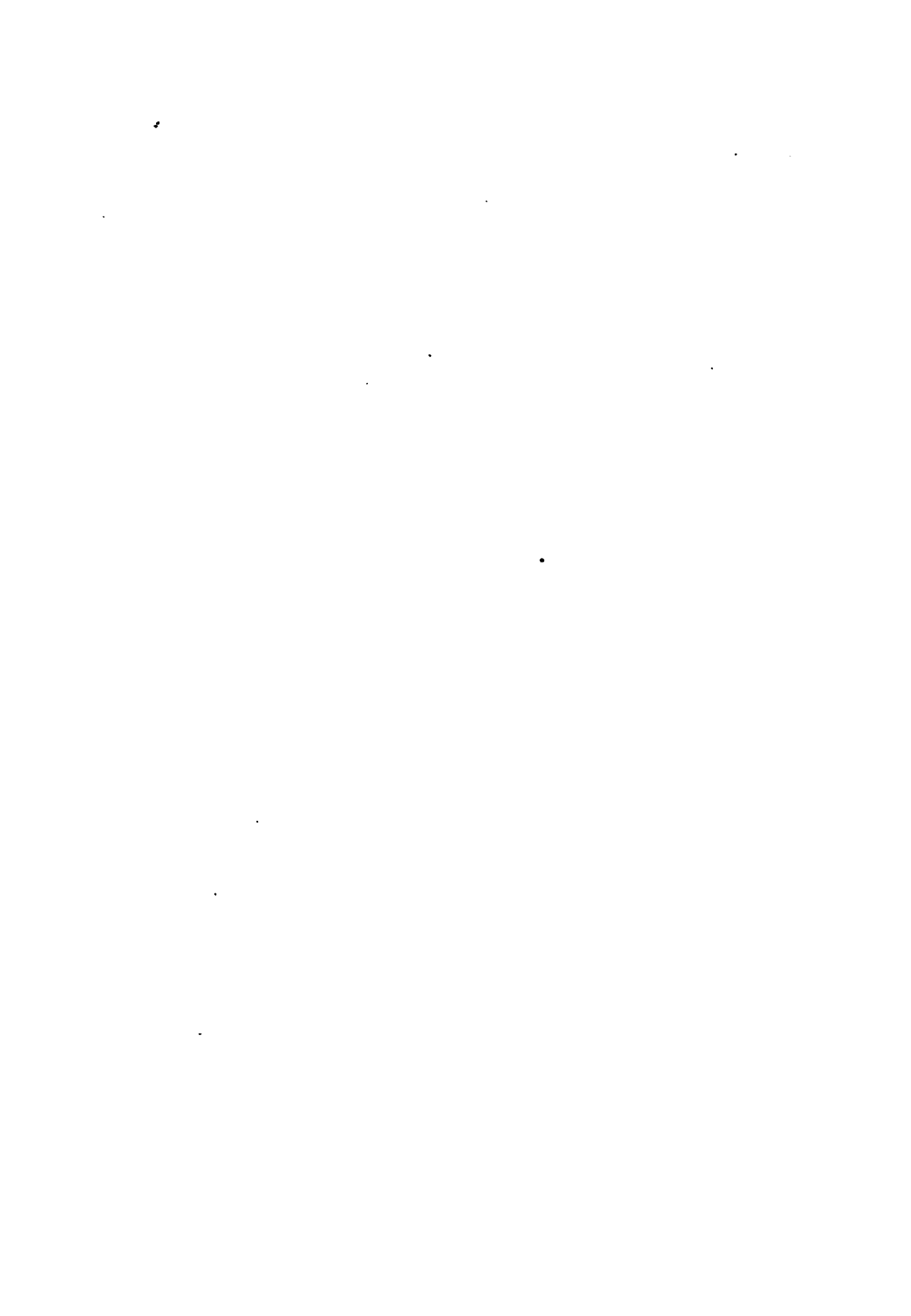
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**OBSERVATIONS**  
**ON THE**  
**ACUTE DYSENTERY,**  
**WITH**  
**THE DESIGN OF ILLUSTRATING**  
**ITS**  
**CAUSES AND TREATMENT.**

**BY** 82,  
**JOHN ROLLO, M. D.**  
**LATE SURGEON IN THE ROYAL ARTILLERY.**

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**L O N D O N :**

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**AND C. ELLIOT, EDINBURGH.**

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**M,DCC,LXXXVI.**

1563. e. 9

C.



T O

DONALD MONRO, M. D. F. R. S.

PHYSICIAN TO THE ARMY,

AND

ST. GEORGE'S HOSPITAL.

SIR,

**A**LTHOUGH I have not the honour of a personal acquaintance, it is now several years since I have been led to view the distinguished character in which you are so justly placed, by real abilities, and unwearied exertions in the public service.

There



There is no one, to whom I can with more propriety address these observations than to yourself: the subject of them, you have had many occasions of considering, and to you it is indebted for many practical illustrations.

The present attempt, is to arrange facts, and connect them, in order ; to explain the occasional and proximate causes of the Dysentery ; and to describe a mode of treatment, which, so far as our practice extended, was generally found successful.

You are very capable of judging, whether this attempt has a degree  
of

DEDICATION.      vii

of merit sufficient to entitle it to some notice. Should it meet with your approbation, I flatter myself you will recommend it to the attention of your numerous medical friends, especially those of a military description, for whom it is particularly designed.

I have the honour of being,

S I R,

With great respect,

Your obedient servant,

JOHN ROLLO.

Woolwich, in Kent,  
11th March, 1786.

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OBSER-

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# OBSERVATIONS

ON THE

## ACUTE DYSENTERY.

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**I**N our observations on the diseases of St. Lucia, we gave a short account of the treatment of the Dysentery, as adopted with success in that Island. In that account, we signified the intention of giving a more particular discussion of the disease, in some future period. But the materials we had collected were partly destroyed, and the dissections which we deemed valuable, as some of them happened early in the disease, were entirely lost in the hurricane of Barbadoes, and during the siege of Brimstone-hill in the Island of St. Christopher.

B

However,

However, we flatter ourselves with the view of still being able, from the papers which were preserved, from succeeding enquiries and practice, and from the communications of others, to throw further light on the nature and treatment of the Dysentery. But whether we have had reason or no to form this expectation, must be determined by those gentlemen, who have had opportunities of examining this disease in America, and the West-Indies : And to the candor and attention of such, these observations are most respectfully and diffidently submitted.

It is judged necessary to premise, that any extent we can give to our enquiry, will not enable us to comprehend a full and decided account of the Dysentery. We only expect to have it in our power to convey hints, that may further assist in the elucidation of the nature of the disease, and in fixing the practice on the most rational, just, and successful basis.

# OBSERVATIONS

ON THE

*History of the DYSENTERY.*

THE history of the Dyfentery has been often described ; but the division of states into which it naturally separates, although absolutely necessary in practice, has not been properly distinguished. With the view, therefore, of pointing out this division, so necessary in the investigation of the nature of the disease and its treatment, we relate the following circumstances of its history.

The manner in which this disease makes its attack is various. In some, it begins with a looseness, then griping and fever ensue. This manner of attack seldom happens. In general, the griping, frequent stools, and tenesmus are ushered in by shivering, or a disagreeable chilli-

ness; and this is followed by other marks of fever.

The Dysentery generally assumes the form of a remittent, tho' sometimes it appears as an intermittent fever\*.

At the beginning of the disease, the griping is generally more severe towards the left and lower part of the belly; the stools are thin and small with tenesmus; and from the painful descent as it were of the whole bowels, with the feel as if the lower parts of them were squeezed together, the stools seem to the patients to be the mere effects of that squeezing. After each stool or effort of this kind, the patient is for a little time relieved, until another effort is to be made, when the griping again becomes severe. The disease in this state continues several days without much alteration. When, however, the febrile symptoms run high, the peculiarly dysenteric

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\* See Sir John Pringle on the Diseases of the Army, in the section on the nature of the Dysentery. Cleg-horn on the Diseases of Minorca, p. 246, 255. Monro on the Diseases of the Army—Intermitting fever. Also, the Cases A, B, C, D, and E, related in these Observations.

teric symptoms very soon alter their appearance. At the time this change happens, the griping is more severe and constant, it is not so sensibly relieved by dejection, and with it there is a general foreness over the belly; the griping as it were terminating in a diffused pain. The disease continuing, this foreness or diffused pain increases, the griping becomes more intolerable, and a vomiting or irritable state of the stomach ensues, with an apthous appearance in the mouth.

When the disease has thus proceeded, the patient is in imminent danger: For should a favourable change not speedily happen, a cessation of pain takes place, then death.

The fever, with which the Dysentery is pathognomonicallly distinguished from all other diseases of the bowels, is of various durations. When intermittent, it may be of short continuance, as the disease by an early and judicious application of medicine is speedily removed. When remittent, or of a more continued form, its period of duration is longer, and may



be protracted. In the latter state, it often shews a remarkable degree of putrescency. When the disease terminates early in death, the fever has not disappeared, but assists in producing the fatal scene. When the disease leaves a diarrhœa, the departure of the fever is evidently marked, generally happening in fourteen or twenty days: and when the disease goes off without any consequence, the fever generally terminates before the fourteenth day; most commonly about the seventh or eight.

When the fever assumes the intermittent form, the peculiarly dysenteric symptoms appear in the paroxysm; and they disappear, or they are much alleviated when it goes off. When the fever is remittent, the dysenteric symptoms increase, and abate, with each exacerbation and alleviation.

### C A S E A.

*William Driver*, of the 46th Regiment.

THIS man had an attack of shivering, followed by all the circumstances of a feverish paroxysm; and these were accompanied with griping, and small bloody stools every

every afternoon. This attack had been repeated fourteen days. The fever with the griping and small stools continued until next morning, when an universal sweat took place; and then these symptoms disappeared. During the intermission, however, which was about seven hours, he had two or three thin stools, larger than in the time of the paroxysm, and without griping or being tinged with blood. The bark in large doses, joined with opium, in six days removed the disease; and in twelve days more he was restored to his usual health.

#### C A S E B.

*John Arden*, of the Royal Artillery,

AFFORDS a case of Dysentery, which run into a quotidian form. During the paroxysm he had the dysenteric symptoms, and they disappeared with it. In the intermission, he was free of any bowel complaint. See our Observations on the Diseases of St. Lucia, Case the 8th.

#### C A S E C.

*Alexander Calder*, of the 71st Regiment.

THIS man had a regular paroxysm of fever every evening, generally making its appearance betwixt the hours of four and seven o'clock. The cold stage continued about an hour, and the hot stage until morn-

ing, when it terminated by sweat. In the time of the cold stage, he had a severe griping without stools; and this continued in a slighter degree during the hot stage; and it altogether disappeared in the sweating period. From four or five o'clock in the morning, until the evening return of the paroxysm, he was free of complaints, except a slight head-ach. His belly was regular. The disease commenced with soreness of his bones, then shivering, &c. He had the feverish attack seven days; it was removed by large doses of the Bark, giving at the time of the accession a combination of laudanum and Antimonial wine. This patient came from Kingsbridge.

Kingsbridge is at the extremity of York-Island, in North America, towards the North River. The encampments of the troops were in the neighbourhood of marshes and rivers, whose edges at this season (the autumnal) were uncovered, and the position of some of the tents was on low ground: From this place we frequently had dysenteric cases, as well as intermittents and remittents. The former generally assuming the form of either of the latter.

## C A S E D.

*Patrick Callaghan, of the 71st Regiment.*

GRIPING in the lower part of the belly, with frequent small bloody stools and tenesmus, head-ach, thirst, foul tongue, dry skin, and quick pulse, were the distinguishing marks of this man's complaint

plaint. He had a considerable exacerbation of these symptoms every day at one o'clock ; and an alleviation from about three o'clock in the morning, until the hour of exacerbation. By the means used in the treatment, a distinct intermission was in four days obtained ; after which the bark removed the disease, and a restorative diet soon perfected the recovery.

### C A S E E.

*Jeremiah O'Bryan, a Pioneer,*

· WAS attacked with the common symptoms of the Dysentery. He had a slight shivering morning and evening, which was accompanied with an increase of the griping, and frequency of stools. At mid-day he became easier, and continued so until the return of the shivering in the evening ; the same thing happened in the night.

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· THE application of the appearances shown by dissection in the Dysentery, has been a source of mistakes regarding the proximate cause. Dissection, unless it happens very early in the disease, is by no means satisfactory : For there is reason to suppose, that the appearances which have  
been

been generally shewn by it, are produced by secondary causes, and depend upon the severity and continuance of the disease, and often upon injudicious treatment.

Therefore, these dissections can give no just idea of the nature of the disease in its first state; they explain however a state of the disease, which happens, under one or other of the circumstances we have mentioned. It must be evident, early dissections are still wanting. Such dissections would be perfect in those cases of the disease, which assume the intermittent form, and the death happening after one or two attacks, and in the paroxysm. Should an opportunity of this kind offer, it is to be expected the attending medical person will not lose it.

Dissections as they presently are exhibited, display a melancholy and fatal state of the disease. These shew, in a lesser or greater degree, in a more particular or general extent, inflammation, ulceration, and mortification of the bowels.

A. B. (aged eight) was seized with the usual symptoms of the Dysentery. The disease continued four or five days without any remarkable alteration. The stools became then streaked with blood. About the ninth day a vomiting came on, and continued until he died, which was the eleventh day of the disease.

In the abdomen the viscera were found in their natural situation, and had pretty nearly their usual colour. The bile in the gall-bladder was thick and ropy, and in small quantity; the spleen considerably enlarged; the liver and pancreas natural. The stomach had a little inflammation towards the cardia, but no other appearance of disease. The duodenum, jejunum, and ileum had in different places slight appearances of inflammation. The cæcum had its internal coat considerably inflamed, with some exulcerations. The colon had its whole internal surface inflamed, with a number of small ulcerations about the size of a pea, having red prominent edges, and some of them black at the bottom. The rectum considerably thickened, and its internal coat covered with a black mucus, that was not easily separated.

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THIS dissection was communicated to me, with several others, by Mr. Cruikshanks, an ingenious surgeon of the naval hospital of Barbadoes. The other dissections were after the disease had been

of many weeks continuance. In all of them, the appearances of inflammation were superficial, save in the great intestines, which were totally affected with it.

From considering the appearance of the inflammation, it is evident, that it is in every part affected with it ; at first, only superficial : But by the continuance and severity of the disease it becomes deeper in the large intestines, and even penetrates their whole substance. The causes producing this inflammation are not coeval with, but subsequent to the formation of the general disease. This is demonstrated by the disease often terminating speedily in recovery, and by the peculiarly dysenteric symptoms going off with, and recurring in, an intermittent paroxysm.

The accession of the inflammation, we apprehend, is pointed out, when the griping becomes more general, with a sense of pain over the whole abdomen. The time this inflammation accedes, depends on the degree, or continuance of the general disease, and very probably on the nature of the treatment.

From

From this view of the History of the Dysentery, the disease naturally divides into two states. One, in which are the fever and the peculiarly dysenteric symptoms; the other, where these are accompanied with inflammation in the course of the intestinal canal: The latter depending on, and arising from, the former. Therefore, we say, there are in the Dysentery, a purely dysenteric state; and a state, in which is added to the other, inflammation.

When these states continue, and the termination does not take place in perfect recovery, the fever gradually goes off, and leaves the intestines ulcerated, or otherwise diseased. This diseased condition of the intestines may continue for many weeks, even months, and it gives rise to symptomatic attacks of fever. These complaints assume the character as given by authors of the chronic Dysentery. But our observations are confined to the disease, as it is generally understood by the appellation of the true or acute Dysentery, circumstances of the history of which have been just related.

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# OBSERVATIONS

## ON THE

### *Occasional Causes of the DYSENTERY.*

**I**N order to determine with any degree of certainty, what are the occasional causes of the Dysentery, it is necessary to collect and arrange the facts relating to the subject.

The Dysentery most generally prevails in the latter end of summer, and during the autumnal season, and seldom in any other part of the year. Sometimes, however, it appears in the spring; and then the disease is neither so severe or fatal \*.

When the Dysentery prevails, intermitting and remitting fevers frequently appear, and it generally assumes one or other  
of

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\* See Sir John Pringle and Dr. Monro's Observations on the Diseases of the Army; also Dr. Cullen's Practice of Physic, vol. iii. p. 197.

of these forms, more commonly of the latter, and they are in their symptoms similar, except in the difference of the symptoms peculiarly dysenteric\*.

When intermittent and remittent fevers, and Dysentery prevail, it is to be remarked, that those who are affected with the latter disease, have been previously exposed to cold and moisture †.

The Dysentery chiefly and originally appears in the neighbourhood of low, swampy, and marshy grounds ‡.

The

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\* See Sir John Pringle's *Diseases of the Army*, in his section of the Nature and Cause of the Dysentery; also, in part i. chap. 7.

† Sir John Pringle, part i. chap. 4 and 8; part ii. chap. 1 and 2. sect. 1. Dr. Monro's *Diseases of Soldiers*. Hoffman's *Practice of Physic*, published by Dr. Duncan, vol. ii. p. 176. Dr. Zimmerman's *Experience in Physic*, vol. ii. p. 103 and 5.

‡ In Dr. Zimmerman's *Treatise on Experience in Physic*, vol. ii. p. 133, it is said, "The Teiffe often overflows the low grounds in Hungary, and thus occasions those dangerous fevers, but above all the Dysentery, which carry off half the Austrian troops." And in p. 103, "Intermittent fevers are very frequent in all marshy situations. We frequently see Dysenteries, and putrid fevers, if a hot season is succeeded by a rainy autumn." See also, Sir

**The Dysentery is said to be, in confined  
situations, where there are many with the  
disease**

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Sir John Pringle's *Diseases of the Army*, part i. chap. 8; part ii. chap. 2. sect. 1 and 3; part. iii. chap. 6. sect. 3.

Observation has fixed the common cause of intermitting and remitting fevers to be, the vapour of marshes, marsh effluvium, or miasma. This vapour may vary in its effects, by a difference of the general habit, or some accidental circumstance in the person it affects; and the vapour may vary in the state of activity, by differing in quantity, and in its degree of concentration. The quantity of vapour is in proportion to the quantity of ground occupied by the marsh, and to the quantity of the marsh become uncovered and dry. When marshes are fully covered with water, their vapour does not seem to produce disease. This vapour becomes active, as the edges and bottoms of the marshes appear; and dry by evaporation. It is at its highest degree of activity, when the marshes are so dry, as to have cracks or openings of the earth over their surfaces. Tertian intermittents are the produce of the vapour in its less active state; quotidians and remittents when it is most active. The Dysentery is produced in place of, or at the same time with these diseases, when the effluvium is joined in its action by the exterior application of cold and moisture; and the Dysentery is subject to the same influence of any difference of power in the vapour. The action of the vapour may be facilitated by a favourable state of the constitution; or, it may be resisted altogether, or rendered less violent, by a different state of constitution, unfavourable to it. Hence, in some, the most active degree of the vapour may produce moderate, or even no effects; while

disease thus originally produced, and in countries

while in others, the least active degree of the vapour may produce very severe effects.

We have reason to believe, the vapour of marshes is specifically heavier than the common air at a small distance from the earth; therefore, it rises only a certain way above the surface of the marsh. If this is not true, the vapour as it rises in the air is so dispersed or diffused, as not to be, at a particular height from the surface of the marsh, capable of producing disease. Morne Fortuné, in St. Lucia, is a high hill surrounded by marshes; but it is apparently free from the activity of their vapour. The south sides of Cul de Sac, and of Carenage bays, are each formed by a ridge of high ground; but it is not near so high as the Morne: Men on these situations suffered much from the vapour of marshes, while on the Morne they were not affected by it. In an horizontal direction, there are many instances to prove the limited influence of the vapour of marshes; some of which are mentioned by Dr. Blane, in his book on the Diseases of Seamen. Modern observation has also proved, that contagions are very limited in the extent of their effects, requiring a very near approach to produce disease. This is exemplified in the contagion of the small-pox, by Dr. Haygarth.

Thus we see that two of the most general of the known causes of fever or disease, are very circumscribed in their effects. The prophylaxis then, so far as these are regarded, may be securely established; and this is completely comprehended in the knowledge of the existence of contagion and marsh effluvium, by which we may avoid a near approach.

The benevolence of the Author of all, is here highly evident. But where can we search without perceiving this, as equally and forcibly distinguish-

countries where contagious diseases happen, propagated by contagion\*.

From these facts it is concluded, that the intermittent and remittent fever, and the

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able? It actuates the whole conduct of Providence, and by it man is more especially regarded! May man prove grateful!

\* Is the Dysentery, as said to be re-produced and propagated by contagion, exactly the same as the disease when otherwise and originally produced?

Is it possible, that such accidental effects, as mentioned by Sir John Pringle, of the effluvia of putrid blood in producing bowel complaints similar to those of the Dysentery, should have given rise to the opinion, that the Dysentery was a contagious disease, and propagated by the effluvia from the stools of the sick; while the disease had only become more general, from a more diffused, active, and favourable application of the causes which originally produced it?

Van Swieten mentions the case of a Physician, who was attacked with the Dysentery by smelling the very foetid stools of a sick person, in an advanced state of the disease. Is it not probable that this was similar to the case given by Sir John Pringle? Both these very eminent men comprehend, under the denomination of Dysentery, all complaints of the bowels, in which are griping, frequent stools, and tenesmus. Now we know, such complaints are sometimes produced by the direct application of offensive matter to the stomach and bowels; but we can never distinguish these, as the true and genuine Dysentery. Contagion is only demonstrated as arising from the living sub-  
ject,

the Dysentery, appear in the same season, assume febrile appearances essentially the same, and are produced by the same causes; only that these are necessarily assisted in the production of the Dysentery by cold and moisture. However, after the Dysen-

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ject, and not from any other source. Temporary effects, however, may be produced by highly putrid animal effluvia, as in the case given by Sir John Pringle, and probably in that by Van Swieten. Dr. Cullen says, "It has been observed, that the effluvia from very putrid animal-substances, readily affect the alimentary canal, and upon some occasions they readily produce a diarrhoea: but, whether they ever produce a genuine Dysentery, I have not been able to learn with certainty." Practice of Physic, vol. iii. p. 108.

By any ambiguity we express on this subject, we only wish, that the facts relating to it may be more carefully inspected. The facts as they are presently explained by the most respectable medical characters, are in favour of the Dysentery becoming in certain circumstances contagious. However, we are inclined to think the subject merits a further investigation.

The Dysentery has been shewn to be produced by marsh effluvia, the common cause of intermitting and remitting fevers, only in this disease it is necessarily connected with cold and moisture. The affinity of the Dysentery to the intermitting and remitting fevers is indisputable. Therefore it may be naturally imagined, that these fevers, as well as the Dysentery, may become in similar circumstances contagious.

Have the intermitting and remitting fevers, as arising from marsh effluvia, become in any situation contagious?

tery has been thus produced, it is said to be further communicated in certain circumstances by contagion.

These certain circumstances are, an increased activity of the original causes, but more particularly a number of sick being crowded together, by which the surrounding air becomes contaminated with human effluvia, in a highly active and putrid state, arising chiefly from the stools of the sick. These effluvia are supposed to produce the same disease, as that occupying the sick person from whence they have arisen; hence contagion and a new source of production.

Are not contagions, the effluvia arising from the body of the living subject, in a healthy or diseased state?

May contagions arise from a living subject in a diseased state, and produce a similar state of disease, although this diseased state has been produced by other causes than contagions \*?

THE

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\* From a variety of reasoning on this subject, Van Swieten concludes, " That disorders may be bred in the

THE opinion of the celebrated Cullen is, "That it is probable, a specific contagion is to be considered as always the remote cause of this disease." In support of this he observes, "That although the Dysentery does often manifestly arise from the application of cold, the disease is always contagious; and by the propagation of such contagion, independent of cold, or other exciting causes, it becomes epidemic in camps and other places. It is therefore to be doubted, if the application of cold does ever produce the disease, unless where the specific contagion has been previously received into the body \*."

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THIS opinion, and the scepticism expressed, by this very respectable character,

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the body by manifest causes, of which, of course, such disorders are the effects; and nevertheless, that the body, labouring under these disorders, may be so altered by them, as to give them by contagion to other bodies, which had not been exposed to the original causes of them. So that it may be truly said, in this case, "the whole man is become a disease," and every where propagates it. Thus, therefore, a contagion is bred in a body ill of a disorder, which was bred without any contagion, and the disorder may be afterwards spread far and wide by such contagion." Van Swieten's Commentaries—English Translation, published at Edinburgh, vol. xv. p. 29.

\* Practice of Physic, vol. iii. p. 108.



ter, are, we presume, clearly contradicted and removed by the facts we have specified, But further,

Every disease which arises from a specific contagion, appears to have been the product of a particular country, and to have been carried only by infection to others \*. A very cursory review will ascertain the appearance of the Dysentery at times, and in places, where no contagion can be supposed or traced. The Dysentery is the endemial disease of countries, or local situations of countries, where contagious diseases seldom arise, and when they do, their source is demonstrable. If the Dysentery was really owing to a specific contagion, we should, on its first appearance in any place, ascertain the part from whence this contagion has been brought. We find the Dysentery primarily to arise, in all countries, from causes connected with situation, and a certain state of the weather ; and it is not till some time after  
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\* Critical Review, vol. lvi. p. 13.

it has been thus produced, and in peculiar circumstances, it is even said to become contagious \*.

In the autumn 1778, at New York in North America, we had many cases of the Dysentery, which were chiefly from Kingsbridge (see case C) and its vicinity, and other situations apparently marshy. The patients were, by some want of regularity, often placed promiscuously in the hospital. I had about twenty with the disease in one very large ward. The nurses which attended these twenty, were not affected with the disease; and I do not recollect one case in the hospital, of a disease by contagion.

In the West Indies, where the intermittent and remittent fevers appear, the Dysentery

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sentery

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\* Dr. Zimmerman, in his Treatise on the Dysentery, p. 151, gives this opinion:—"From all these observations, made partly by me, and partly by other Physicians, I conclude, that the Dysentery is very often only accidentally contagious, but that it also becomes frequently essentially so, just before the death of the patient; and that in general, in all epidemic Dysenteries, this disorder, without the use of proper preservatives, must necessarily likewise be spread by contagion."

sentery occurs, and in some seasons is the most general disease. These seasons are, when the atmosphere is moist and cold. The Dysentery was a disease that often happened, and proved fatal, in St. Lucia. Among all the dysenteric cases we met with, there was no one of them produced by contagion. Every patient having been placed in marshy situations, and exposed to cold and moisture.

It is a curious, though undoubted fact, that contagion seldom appears ; and when it does appear, its effects are confined and limited, in the West Indies \*. In the artillery

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\* Dr. Blane, in his Observations on the Diseases of Seamen, says, " There is reason to think, that the open air very soon dissipates and renders inert all infections of the volatile kind, and of course the warmer the air is, the more readily will it have this effect. It is accordingly observed, that infection is much less apt to be generated about the persons of men, and that it adheres to them for a much less space of time, in a hot climate, than in a cold or temperate one. This is a remark, which, so far as I know, has not been made by any author; and, till observation suggested it to me, I fancied the reverse to be the truth. I have seen so many instances of filth and crowding, in ships and hospitals

tillery hospital ship the cases of Dysentery and remittent fever were admitted from the

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pitals in the West Indies, without contagion being produced, and which in Europe could hardly fail to produce it, or to render it more malignant, that I am convinced there is something in tropical climates unfavourable to the production and continuance of infectious fevers. The ships which bring this fever from Europe, in general get rid of it soon after arriving in a warm climate; and nothing but the highest degree of neglect can continue or revive it." We refer with pleasure to this work, for many ingenious observations on this interesting subject.

The fact of contagion receiving a check, or not arising to a great degree, in warm climates, was not unknown to Sir John Pringle. In his *Observations on the Bilious Fever*, he says, "In Java the plague is unknown, although it has the flux, and a continued putrid fever. In Guinea, intermitting and remitting fevers and Dysentery appear, but as in Java it has not the plague. Neither do the bilious fevers of the West Indies, though of a very putrid nature, ever turn to a true plague." The reason of this, however, Sir John assigns differently to Dr. Blane—as the haziness of the weather during the greatest heats, the sea and land breezes moderating considerably the heat of the air, and in a great measure preventing its stagnation, so necessary in the production of the plague. We agree with Dr. Blane of its being probable, that contagion receives its check in the West Indies more from heat, than from any effect of the breezes of wind; although no doubt they serve a valuable purpose in the prevention of contagious diseases.

Dr. Lind states a fact, in his *Papers*, on fever and infection, of contagion remaining in a ship even after she  
was

the shore, and during the time I attended it, though very much crowded, I did not see one case of disease, produced from any disease subsisting in the ship \*.

## O B S E R -

was cleaned, washed, and had a thorough ventilation. The same contagion was removed by smoking the ship. Whether in this, and such cases, is the contagion destroyed by any power of smoke, or by the heat necessarily diffused in raising and keeping up the smoke for seven or eight hours, by which the contagion is dissipated? Dr. Blane observes, "That fire in every shape is to be considered as the principal instrument of purification, by its heat perhaps still more than by its smoke." *Diseases of Seamen*, p. 261.—In the year 1755, the *Torbay* and *Monarch*, with a pestilential sickness, were in equal distress, and they landed their sick at Halifax in North America. The men were equally attended to, and treated the same in every respect by the surgeons of both ships. Their diseases were similar. Notwithstanding, there died of the men belonging to the *Monarch*, more every week, by one half, than of the *Torbay's* people. This unequal mortality arose from the circumstance of the former being lodged in a large mill without a fire-place, while the latter were in some old houses, not nearly so well accommodated, but where they kept a constant fire of spruce wood. By this fact Dr. Lind confirms the opinion, that a cold, raw, damp air increases the power and vigour of contagion; and may we not add, these are diminished by heat?

\* Dr. Hunter, who was, in the late war, physician to the army, in the island of Jamaica; in a Paper on the Jail or Hospital Fever, inserted in the 3d vol. of the *Medical Transactions*, observes, "That for upwards  
of

# OBSERVATIONS

## ON THE

### *Proximate Cause of the DYSENTERY.*

**F**EVER is an essential part of the Dysentery. This fever assumes the form of the intermittent or remittent.

The fever is accompanied with a gripping in the lower part of the belly, which  
is

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of two years that I remained in Jamaica, I never saw one instance of the hospital fever, though the military hospitals were often as much crowded as they are in Europe. The heat proves a prevention of the disease, as much as the cold forwards its production. In a warm climate, people may be said to live in the open air, so much care is taken to procure, at all times, a complete ventilation; on the contrary, cold is the cause of the air being confined, which gives rise to the poison; and thus, directly opposite to the opinions usually received, there is more danger of producing this disease in a cold country, and in a cold season of the year, than in a warm one." Again, "This poison, so insidious in its attack, and so formidable in its progress, is in all cases, as far as I have seen, easily overcome and dissipated; for nothing more is necessary than ventilation, by which it is diffused and rendered harmless." —Compare this note with the one preceding it.

is generally more severe towards the left side, and frequent small stools with tenesmus.

This fever, with the affection of the bowels, continuing, a more general and different affection of the bowels takes place; namely, an inflammation in the course of the intestinal canal, more remarkably in that part of it composed of the large intestines. This inflammation terminates in resolution or dispersion, ulceration, gangrene.

Having premised these facts, we proceed to our observations on the proximate cause.

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DR. CULLEN's doctrine of Dysentery is, " That the proximate cause, or at least the chief part of the proximate cause, consists in a præternatural constriction of the colon, occasioning at the same time those spasmodic efforts, which are felt in severe gripings; and which efforts, propagated downwards to the rectum, occasion there the frequent small stools and tenesmus \*."

We

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\* Practice of Physic, vol. iii. p. 112. The reader is requested to examine the opinion of Dr. Cullen at large,

We see by the facts, that fever is an essential part of the disease, and always connected with the affection of the bowels, and when both continue, inflammation, ulceration, and even gangrene ensue. Dr. Cullen's account of the proximate cause, therefore, is only an explanation of the symptoms of the Dysentery affecting the bowels in the early part of the disease; and in this view and extent, it gives one, the most satisfactory and consistent with the phenomena of the disease of any yet proposed. But we must go further, and examine the proximate cause of the fever and of the inflammation, connecting these with the proximate cause of the bowel affection just stated.

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DR. CULLEN's doctrine of fever is, " That the remote causes are certain sedative powers applied to the nervous system, which diminishing the energy of the brain,

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large, and the reasons and facts with which he supports it. By doing so, he will more readily understand the opinion we have formed, and are about to explain.



brain, thereby produce a debility in the whole of the functions, and particularly in the action of the extreme vessels. Such, however, is, at the same time, the nature of the animal œconomy, that the debility proves an indirect stimulus to the sanguiferous system; whence, by the intervention of the cold stage, and spasm connected with it, the action of the heart and larger arteries is increased, and continues so till it has had the effect of restoring the energy of the brain, of extending this energy to the extreme vessels, of restoring therefore their action, and thereby especially overcoming the spasm affecting them; upon the removing of which, the excretion of sweat, and other marks of the relaxation of arteries, take place\*."

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ALTHOUGH this idea of fever may be charged by some as objectionable, it is the most agreeable to the phenomena which take place in a distinct febrile paroxysm of any hitherto proposed, we therefore adopt it. This doctrine then, of fever, we say is conjoined with the other in  
forming

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\* Practice of Physic, vol. i. p. 46. The reader is also desired to examine Dr. Cullen's doctrine of fever particularly; for the reason assigned in the preceding note.

forming the proximate cause of the Dysentery in its first state, or the state unconnected with inflammation.

In Dysentery we suppose that the spasm on the extreme vessels, and the constriction of the colon, are produced in the same manner, and are connected. The constriction of the colon being especially excited in this disease by the application of cold and moisture, along with the action of the common causes of fever.

That cold and moisture, united with these causes, are to be considered as the remote causes of the Dysentery, have been already stated as facts. Cold by itself produces simple affections of the bowels. Cold and wet feet often produce griping with looseness, and sometimes with costiveness. Instances of this kind are more or less familiar to every one. In cold rainy weather, and where persons are exposed, a sense of drawing in of the belly very often happens, and this is sometimes followed by griping and small stools, which go off as the body gets warm, and a moisture on the

skin is produced by warm drinks, and the use of the pediluvium \*.

Further

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\* The following facts related by Dr. Lind, in his *Papers on Fever and Infection*, support this doctrine of the Dysentery, so far as the effects of cold and moisture are explained. "In the beginning of the year 1760, several frigates brought an infection to Spithead, which they received from some draughts of newly impress men. In order to the separation of the men tainted with this infection, from the other patients in the house (Haller hospital), which at that time was pretty full, some new wards, not before inhabited, were necessarily then opened. About 20 or 25 of those who appeared to be the most healthful, and on that account received into the new apartments, were seized with fluxes. Their shipmates, who resided in the seasoned wards, were seldom afflicted with the flux. One hundred and five infected persons were sent from these frigates, of whom only eight died, and those mostly of a flux, proceeding from the damp in the wards, as before related. An infection from a fever will sometimes continue about a person for many days, nay weeks, discovering itself chiefly by irregular shiverings, and those sometimes so severe, as to oblige the patients to have recourse to their bed once or twice a day; sometimes every other day. Amongst a number thus affected, such as were put into unseasoned chambers, or had sat down on the cold ground, lain in damp apartments, &c. were immediately seized with a sickness at the stomach, and sometimes with a dangerous purging."

These facts of Dr. Lind also point out, that contagion, either arising from fever, or from the original source of the jail fever, may produce the Dysentery in place of the latter, or of the fever from whence the contagion has arisen, only in this production cold and moisture

Further, that the constriction of the colon and the spasm on the extreme vessels are produced in the same manner, and are connected, is evident from the fact of the griping, or the peculiarly dysenteric symptoms going off at the same time with the spasm on the extreme vessels. The dysenteric symptoms appear in the paroxysm of fever, and they disappear with it. See the cases in the history A B C. They also are increased and alleviated in the exacerbations and remissions of fever. See the cases D E. The case C is peculiarly in point. This patient had only a griping in the cold stage of the paroxysm, which

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moisture are absolutely necessary. Hence it is probable the Dysentery may arise from any cause of a sedative nature, which produces original fever; but it must be joined with the effects of cold and moisture. This merits further attention; our facts and experience enable us only to state, in a particular manner, the causes of the Dysentery as more commonly attributed to marsh effluvia.—Is the Dysentery, as produced in Dr. Lind's cases, contagious, or does the production of the Dysentery in such instances entirely depend on the action of cold and moisture along with contagions? and when the former do not assist, does the latter merely produce the fever which gave rise to them?

which abated in the hot, and entirely disappeared in the sweating stage \*.

Having thus endeavoured to establish the connexion subsisting betwixt the spasm on the extreme vessels, and the constriction of the colon, it is proper to point out, that in the state of the disease just explained there is no inflammation. In the cases A B, where the Dysentery was perfectly formed in an intermittent paroxysm, with distinct intervals, the intestines could not partake of any other affection except what was connected with the febrile or spasmodic state; otherwise, the dysenteric symptoms would not have disappeared with it. In cases of the Dysentery as it most commonly

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\* The following observations from the very attentive and accurate Sydenham, strongly support the reasoning on this part of our subject.

“ At the same time the Dysentery raged, a fever arose, which much resembled, and often accompanied this disease. It not only attacked such as were afflicted with the Dysentery, but those likewise who remained wholly free from it; unless that sometimes, though very rarely, the patient had slight gripings, sometimes with, and at others without a looseness;

monly appears, with the fever remittent, the disease is often brought to a speedy termination by an early and judicious application of medicines effectual in the removal of spasm.

We have seen, however, that if the disease continues, the intestines become materially affected with inflammation. This inflammation extends over the inner surface of the intestines, the stomach, and there is reason to suppose the whole course of the œsophagus, by the aphthous and red appearance of the mouth and

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fauces,

ness; for it always had the same apparent causes with the Dysentery, and was attended also with the same symptoms as the fevers of those who had the Dysentery; so that, if we except the evacuation by stool in the Dysentery, and the symptoms thereon necessarily depending, this fever should seem to be wholly of the same nature with that disease. And from henceforward, through the course of this constitution, it underwent the same change of symptoms, with respect to its increase, state, and declension, as generally happened in the Dysentery. I call it, therefore, the dysenteric fever." Sect. 4. chap. 4. — Again, "The first autumn the Dysentery attacked, several had no stools at all; but with respect to the severeness of the gripings, the violence of the fever, sudden decay of strength, and other symptoms, it much exceeded the dysenteries of the following years." Sect. 4. chap. 3.

fauces, in the advanced state of the disease. In some cases the small intestines are almost free of inflammation, while the colon and rectum are inflamed, ulcerated, and mortified; in others, the ileum is wholly inflamed, while there are only partial inflammations on the duodenum and jejunum. Therefore, it is evident, that this inflammation does not extend over the whole course of the alimentary canal all at once, but occupies several places, and changes its situation from one part to another.

There is reason to think this inflammation is not accompanied with a great degree of pain; it seems rather to communicate a diffused feel of soreness, while the greatest pain is seated in the constricted colon, and the spasmodic efforts connected with it. But in cases where the inflammation penetrates more deeply into the substance of the intestines, there is a sense of great pain; the inflammation, however, of this extent, is chiefly confined to the large intestines; and in such cases the pain, and the sense  
of

of griping, will be difficult to distinguish.

When the fever is connected with a high degree of putrescency, the inflammation, as occupying the large intestines, soon terminates in gangrene. But when the general affection is less severe, or is speedily removed, the inflammation gradually disperses, or leaves ulcerations, which it is probable are sometimes healed, although more frequently they remain, and produce an incurable diarrhœa, or, as has been already observed, such a state of the bowels as to produce what is termed by authors, chronic Dysentery.

The inflammation seems to be propagated downwards to the rectum, and upwards to the cæcum, ileum, jejunum, duodenum, stomach, œsophagus, and fauces. This is probable, from the marks of an inflammation of the stomach, œsophagus, and fauces, being only distinct in the advanced stage of the disease. There may be exceptions, but we presume this is the most common, if not the only manner in which the inflammation proceeds.



From these remarks, we are inclined to suppose this inflammation has a near resemblance to the erythematic, which Dr. Cullen describes as sometimes affecting the stomach, and the whole course of the intestinal canal ; producing vomiting and diarrhœa.

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“ ERYTHEMATIC inflammation is often disposed to spread from one place to another, in the same surface; and, in doing so, to leave the place it had at first occupied. Thus, such an inflammation, has been known to spread successively along the whole course of the alimentary canal, occasioning in the intestines diarrhœa, and in the stomach vomitings \*.”

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ALTHOUGH in the fatal cases of the Dysentery, the inflammation, as chiefly occupying

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\* We request the reader to examine Dr. Cullen's account of the nature, causes, and effects of this species of inflammation, in his *Practice of Physic*, vol. i. p. 254, 366, and vol. iv. p. 69.

occupying the large intestines, is not so superficial as in the common erythematic inflammations ; it is to be supposed, that in cases of recovery, where the inflammation had really acceded, it could only have occupied the inner surface of the intestinal canal.

We are of the opinion, that this inflammation is produced by fœcal, and other putrid or acrid matter in the intestines, which stimulates and irritates their inner surface.

In this disease, there is no doubt an increased determination of fluids to the bowels ; and these fluids soon become noxiously altered in quality, after they are poured into the intestines. This determination of fluids, and their noxious quality, are induced by the accession and continuance of the disease ; however, we suppose this is often particularly favoured by a previously weakened and irritable state of the intestines. The Dysentery more generally happens in those seasons where the bile is separated in greater than the ordinary quantity, and

where diarrhœas are liable to occur. We would therefore say, that the bowels are often particularly predisposed to the Dysentery by circumstances of season, and we may add, by circumstances of conduct, as we find the Dysentery generally affecting those who have been addicted to irregularity and intemperance. In such cases, the remote causes will be much favoured, and the bowel affection will be additionally severe.

The inflammation, as thus produced, is no doubt much increased by the hardened feces, and other matter forming what is called scybalæ, being squeezed against the inner sides of the intestine, particularly where it forms the sigmoid flexure, in the spasmodic efforts of the colon : And the effects will be communicated downwards and upwards, according to other circumstances, and to no determined extent. Hence the probable reason of the large intestines sharing more in the degree, deepness, and extent of the inflammation. Therefore, any difference from the common appearance of erythematic inflammation may be explained.

And

And in this way we would account for the ulcerations, and other peculiar appearances more particularly taking place in these intestines. The gangrene, so readily happening in these parts, in severe degrees of the disease, is in the same manner so accounted : Though, as has been already observed, this fatal termination will be facilitated, where the general disease has a great degree of putrescency.

These observations induce us to conclude, that the proximate cause of the Dysentery consists of a febrile state, the spasmodic part of which is particularly extended to the colon, and forms a constriction of it ; and by the continuance of this state, erythematic inflammation is excited on the inner surface of the intestinal canal, and which sometimes penetrates into the substance of that part of it composed of the large intestines, more especially in those cases of the disease of a fatal event\*.

Hence,

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\* Since the arrangement of these observations, Dr. Blanc has published an account of the diseases of  
seamen,

Hence, the division of the Dysentery, as was formerly observed, in the history of the disease, into two distinct states.

1st. The purely febrile, or spasmodic state, in which there is no inflammation of the inner surface, or of any part of the intestinal canal.

2d. The febrile and erythematic state, in which there is added to the purely febrile or spasmodic state, an inflammation of the erythematic kind, on the inner surface of the intestines; this inflammation, especially in the fatal cases of the disease, penetrating farther into the substance of the large intestines\*.

This

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seamen, especially of the warmer climates.—From this book we have already given some quotations; and we subjoin here the following general idea of the nature of the Dysentery, referring to the work itself for any particular detail.

“ Fluxes seem to arise in the same circumstances, and to be owing to the same general causes, as fevers. They may in some sense be considered as fevers, attended with peculiar symptoms in consequence of a determination to the bowels, just as fevers in cold climates are sometimes attended with rheumatism or catarrh.”

\* We have availed ourselves of the doctrines of Dr. Cullen, as they are deducible from the facts and phenomena

This division of the Dyfentery is of essential importance, in forming the basis of a rational and successful practice. On this basis are founded the principles of the treatment.

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phenomena of the Dyfentery. It is presumed, we have extended their application so as to explain more satisfactorily the proximate cause of that disease ; and we trust our facts, and the reasoning deduced from them, have some weight in supporting these doctrines, so far as they are applied.

However, it is very probable the view we have given of this subject may be defective ; we know it is imperfect. But if it shall prove, on a further investigation, more agreeable to the phenomena of the disease, than any view hitherto given, it deserves attention. As succeeding enquiries point out its errors and defects, the author will correct and supply them. Should a view be hereafter presented, altogether more clear, satisfactory, and demonstrable, he shall readily turn his eyes from the one he espouses, and bestow them upon it.

# OBSERVATIONS

ON THE

*Treatment of the* DYSENTERY.

THE treatment of a disease is always precarious when its proximate cause is not clearly ascertained: For this reason, the Dysentery is a disease, in which the treatment has been ambiguous and perplexed. The justly distinguished Cullen is, we may say, the only one who has reduced the treatment of this disease to a clear principle; of course it has been rendered more satisfactory and decided.

The proximate cause, as we have explained it, will, we expect, assist further in illustrating and fixing the principles of the treatment. And here we observe, that the treatment hitherto found most successful in the cure of the Dysentery, throws additional support on the view we have given of the proximate cause.

We

We are enabled to form these general intentions.

I. The removal of the febrile and spasmodic state.

II. The prevention of the erythematic state.

III. The removal of these two states when they are conjoined.

The first and second of these general intentions are to be immediately adopted, the obtaining of the second being in some measure effected by the accomplishment of the first. Those means, however, are only to be employed, which, while they answer the purposes of the one, will not counteract the fulfilling of the purposes of the other.

When the erythematic state accedes, a continuance of part of the means employed under the first and second intentions is still necessary, and a more immediate application must be made to the parts locally affected.

The febrile and spasmodic state is to be removed by

1st. Those



1st. Those means which take off the spasm of the extreme vessels, and the constriction of the colon connected with it.

These means are either — Internal

or

External.

The internal means are,

(a) Emetics ; as

Ipecacuan,

Antimonial preparations :

The preference is given  
to a solution of Tartar  
Emetic.

(b) Diaphoretics :

Opium and Tartar Emetic combined.

(c) Diluents :

of the oleaginous and mucilaginous  
kinds.

These are to be used chiefly in a  
tepid state.

The external means are,

(a) Warm bathing,

—— fomentations.

(b) Blistering \*.

2d. Those

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\* Blood-letting has not been specified, as we imagine it is seldom or never necessary in the Dysentery. In the West Indies, when inflammation of the bowels  
has

2d. Those means which obviate the effects of debility.

(a) Peruvian Bark.

(b) Opium.

(c) Wine ;

Port,

Madeira.

3d. Those means which correct the tendency in the fluids to putrefaction \*.

(a) Clean-

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has taken place in this disease to any extent, the febrile state is in that degree which would render the general evacuation of blood highly dangerous, and probably would induce an irrecoverable degree of debility. We have seen that the Dysentery is at first not necessarily connected with inflammation; and the disease is in general ushered in by such prostration of strength, that blood-letting, even at the commencement of the disease, would certainly be improper. Besides, the inflammation of the intestines in the Dysentery is, as we have shewn, of the erythematic kind, which is superficial, and produced by no inflammatory diathesis, but by causes immediately acting on the interior surface of the intestines. We, however, entertain the idea, that topical bleeding, by cupping in the situation of the sigmoid flexure of the colon, with a large blister afterwards applied over the scarifications, would be attended with advantage; although we acknowledge never to have put it in practice. In cold climates, where the constitution is plethoric, blood-letting may be, at the commencement of the Dysentery, proper; however, of this we cannot speak from experience.

\* See Dr. Cullen's Practice of Physic, vol. i. p. 126.

(a) Cleanliness.

(b) Changing the surrounding air by ventilation.

(c) Acids.

Fruits, roasted, boiled, or as a drink  
in infusion.

(d) Fixed air.

(e) The means of obviating the effects of debility.

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THE accession of the erythematic state  
is prevented by

An early and successful attempt to re-  
move the febrile and spasmodic state, pro-  
tecting the inner surface of the intestines,  
and on the constant evacuation of their  
contents.

1st. The febrile and spasmodic state is  
to be removed by the means already point-  
ed out.

2d. The inner surface of the intestines  
is protected by

(a) Mucilaginous  
and

Oleaginous drinks; as

Infusions of Linseed,

Emulsions of Almonds,

Solutions of Gum Arabic,

———— Wax.

(b) The constant evacuation of the contents of  
the intestines.

3d. The

3d. The evacuation of the contents of the intestines is to be effected in the most gentle manner, by

- (a) Solution of Tartar Emetic and Manna.
  - (b) Opium and Tartar Emetic combined.
  - (c) Castor Oil.
- 

WHEN these states are conjoined, they are to be removed, by

1. The means employed in the removal of the febrile, and in the prevention of the erythematic state, judiciously adopted. Especially, in the attentive use of the mucilaginous and oleaginous drinks; and in obtaining a gentle though certain evacuation of the contents of the intestines.

2. Volatile alkali combined with oil, warm fomentations, and blistering over the surface of the abdomen.

HAVING premised this general view of the principles of the treatment, and the means employed, we proceed to offer some practical and particular observations on the principal remedies :—and these are the result of personal experience.

It has been a general practice to use emetics in this disease, and to repeat them frequently. But it is imagined, the repetition of them is really hurtful. The use of emetics is directed to emptying the stomach, and determining to the surface. The last intention is more safely produced by other means, and it is never necessary to procure the first, unless at the commencement of the disease, or where an accumulation in the stomach is clearly marked.

#### THE ANTIMONIAL SOLUTION.

Tartar Emetic, six grains.

Common Water, twelve ounces.

Dissolve the tartar emetic in the water, and give two table spoonfuls of the solution every twenty minutes, until it excites vomiting, which is promoted by tepid water.

#### LAXATIVE

LAXATIVE medicines are peculiarly indicated and necessary ; they are to be immediately adopted, and persevered in during the whole course of the disease. However, from the irritable and spasmodic state of the intestines, it may be presumed, that all medicines increasing their peristaltic motion beyond a certain degree, augment the spasm, by which the disease will be aggravated ; and this may more particularly happen, when to the spasmodic state, the erythematic one is added. There is great reason for this opinion ; but the necessity of preventing an accumulation in the intestines, which produces the same effect, and more violently ; and facilitates the production of the erythematic state, is equally apparent. And when the erythematic state has acceded, it is equally necessary to prevent an accumulation, by a constant evacuation of the contents of the intestines ; as this accumulation increases it, by the fœces or other matter hardening, and being squeezed against the sides of the intestines by the spasmodic efforts of the colon. This will facilitate the extension and deepness of

the inflammation. Therefore, although laxatives are apparently necessary, and not to be dispensed with, the utmost caution is requisite in the selection and exhibition of them. They ought to be of the nature or kind producing a thorough effect with the least possible stimulus or increase of the peristaltic motion of the intestines.

We give the preference to tartar emetic. This, when properly prepared, is a very active medicine ; and it may seem not well calculated in a disease, where, as we have shewn, the mildest medicine is only to be used. Its activity, however, is diminished, by giving it in a small dose, and repeating it at proper intervals ; or more successfully, by joining it with such things as either lessen the sensibility of the parts to which it is applied, or protect their surface, or both.

Manna is a saccharine body, containing a great proportion of a mucilaginous matter, and it is possessed of a laxative quality. It is therefore a substance well adapted to the union with tartar emetic, as it protects the surface of the parts to which the tartar may be applied ; and we

have found it answer the purpose in practice\*. The manna also considerably lessens the action of the emetic tartar on the stomach, and by its laxative power assists in determining it to the intestines. For these reasons we always used the following form.

THE LAXATIVE SOLUTION.

Tartar Emetic, eight grains ; dissolve it in two ounces of water.

Manna, four ounces; dissolve it in ten ounces of boiling water ; then strain it.

Mix these solutions intimately together, by a smart agitation†.

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\* It may be said, these properties of manna are changed in the course of digestion ; therefore they cannot be conveyed to the intestines. In answer to this, it is to be observed, that when this medicine is used, the digestive process by disease is so deranged, that the stomach lets slip substances without any sensible alteration, except in dissolving and dividing those of easy solution or separation ; in other words, assimilation is not effected. Besides, experience has fully shewn the advantages resulting from the union of manna and tartar emetic in producing stools with little stimulus, as during its operation there is no increase of griping.

† This form was taken from the one recommended by the late Sir William Duncan to Dr. Monro ; and which is mentioned by the Doctor, in his account of the Dyfentery, in a note.



Two table spoonfuls of this laxative solution, given every two hours, seldom fail to produce, in the course of three or four doses, large stools. The quantity is diminished or increased according to the effect, and as the patient's stomach is able to bear it, without exciting such a nausea as to endanger vomiting.

In cases where an emetic is given at the commencement of the attack, it is followed, two hours after the operation, by a draught, composed of laudanum and antimonial wine; and when the effect of this is over, we begin with the laxative solution, and continue it until large stools are evacuated. Then its use is laid aside, and another form of the medicine is adopted.

This form consists of a medicine, joined to the emetic tartar, that diminishes sensibility; and of an article which serves, as in the former preparation, to protect the inner surface of the stomach and intestines. By these, the emetic tartar acts slowly and effectually, and with less roughness, in procuring a discharge of the contents of the intestines, by which the accession

tion of the erythematic state is either retarded, rendered less dangerous, or altogether prevented.

With the effect of guarding the intestines against the roughness of the emetic tartar, this medicine has, as we have just observed, the power of rendering the intestines, by diminishing their sensibility, less liable to be affected by the application of acrid matter, the probable cause of the erythematic state: Hence the use of such a preparation, even after that state has acceded.

To these good effects of the preparation is added, the certain power it possesses of removing spasm and constriction, which are essential objects in the treatment. And by this power the other effects of the medicine are more certainly secured.

The preparation is in the form of pills, and we call them

#### THE RELAXING PILLS.

Thebaic Extract,

Olive Oil,—of each half a drachm.

Tartar Emetic, that has been rubbed very fine  
in a glass mortar, one drachm.

Bees Wax, bleached, one and a half drachm.

The emetic tartar and olive oil are to be rubbed very intimately together, then the other articles are to be added ; the wax being previously scraped as fine as possible. Put them all into a small gally-pot; let this pot be put into a vessel containing boiling water ; the water to be kept boiling by a quick fire. The mixture in the gally-pot is to be constantly stirred, until the articles are perfectly dissolved ; the gally-pot is then to be taken out of the water, and suffered to cool ; the stirring is to be constantly continued till it becomes of the consistence so as it may be taken out of the vessel. It is to be worked together with the fingers, and when of the proper consistence, to be divided into one hundred and twenty pills ; each pill contains half a grain of tartar emetic, and one quarter of a grain of thebaic extract \*.

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AFTER the operation of the laxative solution, we give two of the relaxing pills,  
and

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\* A medicine was used with success by Dr. Moehrlin, consisting of three or four grains of marshmallows root powdered, with six grains of the cerated glass of antimony. Dr. Zimmerman says, Dr. Moehrlin had given this remedy to above seventy persons of all ages : there were but few that required more than three doses (each dose containing six or eight grains of the composition), in order to be cured :  
the

and the following morning repeat one of them every six hours, and at the bed hour  
two

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the first dose increased the flux, with the second it diminished, and with the third it disappeared. *Treatise on the Dysentery*, p. 86.

Dr. Brocklesby found opium and ipecacuan, formed into pills, in the proportion of two grains of the former to three of the latter, very serviceable in the chronic Dysentery. He gave them morning and evening, when the fever was quite gone. The ipecacuan in this manner became a gentle purge, and the opium alleviated the irritation occasioned by the ipecacuan and (to use the expression of Zimmerman) morbid matter.

We were happy in meeting with such testimonies in favour of medicines bearing similarities (although one of them is only given in the chronic Dysentery) and whose uses are founded on part of the same principles as the one we recommend, and have found so successful. We avoid drawing any comparison, we rely on the test of experience; and to it, exclusive of any reasoning that might be fairly pursued, we submit the decision. In the chronic Dysentery our medicine will be found very efficacious; however, of this disease, it is not our intention to particularize.

We are very particular in adducing every fact or essential circumstance, relating to the nature and treatment of the acute Dysentery, which supports and confirms the opinions we entertain. We judged this to be necessary, especially where any deviation from the common opinion is made, or a different reasoning pursued, by which other conclusions might be drawn than have been hitherto proposed. Another reason, we have an anxious wish and expectation of being

two are again given. In this way they are continued until the disease assumes certain signs of a happy termination, when the frequency of the dose is gradually diminished, to the evening one, and this dose is generally repeated until recovery is far advanced.

The use of these pills must be always so regulated, as that too great a degree of nausea and vomiting may not be induced. In cases of very delicate stomachs, the proportion of the antimony may be diminished to a quarter of a grain in each pill. The union with opium and wax considerably diminishes the nauseating effects of the tartar emetic on the stomach. In this composition a greater quantity of the tartar emetic can be exhibited, without producing nausea, than in any other form in which we have used it.

A solid

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being able to exhibit a chain of well-founded observations, that will prove of real utility in practice. We also wish to excite further attention to this disease in its nature and treatment, as we have reason to suppose it is too generally imagined both are sufficiently ascertained.

A solid form is preferred, as the action of the medicine in such a state is more gradual, and more certainly communicated to the intestines. However, in cases where the disease assumes the intermittent appearance, or is accompanied with exacerbations, we occasionally adopt the use of a liquid form.

#### THE RELAXING SOLUTION.

To the whole quantity of the laxative solution, are added, two drachms of liquid laudanum.

Two table spoonfuls of this solution are given every two hours during the paroxysm, commencing after the termination of the cold stage; and the same quantity in cases of exacerbations, beginning immediately when these happen, after which, we go on with the pills.

These medicines never fail of opening the skin, as well as of procuring an easy and effectual discharge of the contents of the intestines. Objections, probably, may be started against the use of opium so early in the disease; but these will  
 10 disappear,

disappear, when the good effects of it, in the form we recommend it, are considered ; besides, it is joined with another medicine, whose action prevents the effects which have been urged as arguments in its disfavour \*.

In

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\* Since writing these observations, we have met with remarks on the Dysentery of the West Indies, by Benjamin Moseley, surgeon at Kingston in Jamaica. The opinion of this gentleman, with respect to the nature and treatment of the disease, is briefly as follows :

Page 3d. Sydenham discovered the Dysentery to be, a fever of the season, or of its own kind, turned inwards upon the intestines.

Page 4th. In the course of twelve years experience in this island, and from every account I have been able to procure from all parts of the West Indies, I have invariably found the truth of Sydenham's opinion ; and have remarked, that as the flux distinguishes, by the number of stools, the quantity, so it does the fever of the season, when it prevails, or of the subject diseased ; the stools being more frequent at those hours when fever are in their exacerbation, and the reverse when in their remission ; besides their alternate succession is frequently observed.—Nor can it be doubted that this fever (Dysentery), like most others, is caused by obstructed perspiration ; chiefly depending on sudden transitions, and such other causes as expose people to have this discharge hastily stopped. — Page 5. It is not to be doubted, that a conjunct cause is necessary, otherwise obstructed perspiration, the parent of so many, would always produce the same disease.

As

In cases of the disease where evacuation has been neglected, or where there is appearance of accumulation in the intestines, the most speedy discharge is pointed out; and for this purpose we have found the best medicine to be castor oil \*, following it

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As I have constantly practised in the opinion, that a flux is a certain fever of the intestines, and that this fever is caused by the obstructed perspiration being thrown there—so I have ever found it relieved by turning back that discharge to its natural channel; nor have I often found difficulty in removing it speedily, when taken in the beginning.

Page 15. The curative indications are—to cause a revulsion to the surface of the body, and, to cleanse the intestines: The disease being rapid, the cure depends on performing these things as speedily as possible.

To fulfil these indications, he prefers an antimonial that acts much upon the skin, and purges at the same time; and this he obtains in James's powder. After the *primæ viæ* is cleared by this medicine, he recommends the use of laudanum and antimonial wine combined, as a diaphoretic. When a diaphoresis is begun, it is maintained by warm diluents, and repetitions of the medicine. The disease is finally removed by the Peruvian bark.

\* Dr. Blane objects to this medicine, as being apt to become rancid on the stomach. This effect we do not recollect to have perceived, as its operation is so quick, it does not seem to lay on the stomach any time to communicate the nauseous taste of rancidity. However, this may have arisen from our  
always,



it in a few hours with some doses of the laxative solution.

Dilution, however necessary in this disease, and though repeatedly recommended, has been much neglected in practice. The patient should not only be allowed, but he ought to be encouraged to drink freely ; and to induce him, the drink may be varied, and his taste and inclinations consulted, and prudently indulged. The dilution should commence immediately with the other parts of the treatment, and be diligently persisted in during its whole course. The drinks must always be in a tepid state, unless in cases accompanied with symptoms of general putrescency, when the patient may have them cold.

Indeed,

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always having used the oil recently prepared. In St. Lucia, and the other French islands, this oil is obtained by fire ; it is generally of a burnt or empyreumatic smell, and it soon, by keeping, becomes rancid. The best oil is obtained by simple expression, without heat. As this process is easily performed, and the castor nuts always to be procured, the oil should be made in small quantities at a time, and kept in small vials well corked — then put by in a cool place. We have been thus particular, as we wish to obviate any doubt that may probably arise, from the objection of Dr. Blane, to a valuable medicine in warm as well as in cold climates.

Indeed, in every case, no harm can arise from indulging the patient in such temperature of drinks as he may particularly and anxiously wish.

The preferable drinks, are those of a mucilaginous and oleaginous nature. The most common drink we used was an infusion of linseed, and, when the sick tired of it, they had a change of rice or barley-water. A solution of gum arabic sweetened, and slightly acidulated, afforded a pleasant and useful drink. The Arabic emulsion of the Edinburgh pharmacopœia makes an agreeable drink. The infusion of linseed, as it contains a portion of oil with a mucilage, was in general preferred, and in military hospitals it will prove the most convenient. The taste of it may be agreeably varied by slightly acidulating it with tamarinds or crem. tartar. In the advanced stage of the Dysentery, and where the stools were of a cadaverous smell, the drinks were acidulated with any of the vegetable acids, and if these could not be procured, with the acid of vitriol. In such a state of the disease, a cold and weak infusion of the Peruvian bark,

bark, with the addition of a little vinegar, and sweetened with sugar, was used as a drink, or instead of the vinegar acidulated with the acid of vitriol. Cold infusions of the bark of the simarouba, and of chamomile flowers, were frequently used in the same manner. These drinks were generally relished by the patients; for in this state of the disease they seemed to have an anxiety for something of a bitterish and sourish taste. These drinks were very useful, as during their use there was less flatulence, and the smell of the stools became less disagreeable. Hence their power in checking fermentation, and of being otherwise materially beneficial. The infusion of the Peruvian bark proved always the most effectual, and in this way it never proved hurtful, though it has been drank freely. Along with this, as well as the other drinks, the relaxing medicines were used, in the manner we have formerly described \*.

The

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\* There is a preparation mentioned by Dr. Monro, of wax made into the form of an emulsion, and was  
used

The use of dilution in general, and particularly of the mucilaginous and oleaginous kind, in the Dysentery, is clearly indicated by its effects in removing constriction, lubricating the inner surface of the stomach and intestines, blinding acrid matter, and in facilitating and diffusing the action of the medicines. In the advanced state of the disease, the good effects of the bitter, astringent, and acidulated quality of the dilution have been already related.

The most important benefits have been derived from warm bathing and fomentations.

used by the late Dr. Huck Saunders, in America, with success as a drink. It is undoubtedly a good one, and it may not be superfluous to insert the preparation here.

R Ceræ albæ vel flav. drachmas tres.

Sapon. alb. Hispan. drachmam unam.

Aquæ fontanæ unciam unam.

Liquefiant super ignem in vase ferreo, agitando spatula, & dein infunde in mortarium marmoreum, et adde paulatim Aq. fontanæ libras duas, syrupi sacchar. spiritus vini gallici tenuis, vel aquæ alicujus spirituosæ ana unciam unam, terendo optime ut fiat emulso.

tions. The warm bathing we could only conveniently adopt, was the pediluvium. It was used, from the commencement of the treatment, twice or thrice a day, and continued until there were marks of the constriction and spasm being taken off. Along with the pediluvium, fomentations to the belly were applied, and from them we have been sensible of great relief. The pediluvium and fomentations were continued each time for about twelve or fifteen minutes, but the time was always regulated by the patient's strength, desisting immediately when he discovered any signs of weariness. If he was much weakened, instead of immersing his feet in warm water, they were fomented, taking care not to wet the bedding. In using the pediluvium or fomentations, it is necessary to prevent the patient's being exposed to any degree of cold, of which he will soon complain. When he sits up to use the pediluvium, he should be well wrapt up in a blanket. There is another caution exceedingly proper to be attended to :—When nurses are to have

the charge of the bathing, they should be particularly instructed not to have the water in a degree of heat much above blood warm.

The semicupium, a complete immersion of the body in warm water, or the application of warm vapour, if either could be conveniently and guardedly used, might be attended with good effects on the first attack of the disease.

The known power of warm bathing and fomentations, in taking off spasm and constriction, satisfactorily points out their use in the Dysentery.

However, when the disease has made some progress, and there are evident marks of a general putrescency, with great prostration of strength, warm bathing and even fomentations become improper. The patient at this time suffering much by the least exertion or fatigue; and probably the heat and moisture may have an effect of facilitating the tendency to putridity, by diminishing the vis vitæ. We therefore chiefly confine the bathing and fomentations to the first state of the disease,

feldom extending their use beyond the early part of the second state, unless in the application of fomentations to the abdomen.

With respect to blistering, we are to observe, that the best effects have been derived from it in both states of the disease, especially in the second. When the disease has continued four or five days without alleviation, even though the fomentation and other remedies have been employed, we rubbed the belly five or six times a day with a strong volatile and camphorated liniment, and covered the abdomen with a layer of flannel. If this failed, we applied a large blister, so as to cover the parts under which the patient was most sensible of pain and griping. By these means, along with the other remedies, we have frequently checked the progress of the erythematic state, and removed the disease.

When the Dysentery assumes the intermittent form, the return of the paroxysms are to be prevented by an early exhibition  
of

of the Peruvian bark, in as large doses as the patient's stomach will bear. If the disease is more continued, but distinguished with alleviations and exacerbations, the bark is to be used during the former, and in the latter the other remedies and means of treatment are to be adopted. By a timely exhibition of the bark in the first alleviations of the disease, after the necessary evacuations have been made, a favourable turn to the disease generally takes place. In all cases, however, of the disease, where it is suspected the erythematic state has made a considerable progress, and that the large intestines are much affected with the inflammation, the bark in substance, or otherwise in large doses, proves injurious. However, in this state, accompanied with marks of putrescency, a cold, weak, and acidulated infusion of it as a drink is very serviceable. See under the article Dilution.

Wine is only admissible in cases of extreme debility, and even in these, opium often proves the best and the safest cordial.

In



In the advanced stage of the disease, where the stools of the sick are very offensive, the introduction of fixed air by injection has been tried; but I am sorry to say no material advantage was derived. The irritation occasioned by introducing it gave pain, and increased the tenesmus; our apparatus, however, was awkward and incomplete. We therefore would recommend a further trial, especially, as we have undoubted proofs of its efficacy in checking putrefaction in the living subject\*.

We

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\* We shall here introduce the composition of a poultice we have used with good effect in ulcers, where the discharge was thin, and of a foetid smell.

Powdered linseed (or linseed flour), six ounces.  
Powdered ginger, one drachm.  
Coarse sugar, four ounces.

These are mixed together, into the consistence of a poultice, with yeast, the thick dregs of porter, or any kind of beer. It is then put into a pot, and gently covered up—in this way it stands, near a fire, or in any warm situation—fermentation will soon commence, and in this state it is to be applied to the diseased part,  
to

We have occasionally used injections of various kinds, as sedative, emollient,  
and

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to which it must be very slightly confined, otherwise it will distend the sustaining bandage, and produce a cause of irritation and pain. The poultice is renewed every ten or twelve hours, as the fermentation ceases, or it becomes dry; and the poultice must always extend farther than the edges of the sore. The proportions of the articles as stated, were found to be the most suitable; the quantity of each may be diminished or increased according to the quantity of the poultice wanted, as it must be made every time of application anew. Oatmeal or flour will answer in the composition of the poultice, and of these two, the former is the best. We always preferred the farina of the linseed, as the poultice when made with it did not harden so soon, and the fermentation seemed to continue longer than when any of the other articles was used. The difference may be occasioned by the one containing a small quantity of oil, a quantity sufficient for this purpose, although not so great as to prevent fermentation. The ginger seemed considerably to favour the production of the fermentation, and in this view it was generally added.

A soldier of the name of Bates was affected with ascites and general dropsy; as the disease proceeded, an ulcer he had for some time on the anterior and middle part of the left leg, became black, and lost its sensibility. The discharge was very offensive. The sore began to spread, with an erysipelatous appearance around it. The disease of the system increased, but by the application of the poultice, the ulcer gradually became of a reddish aspect, the discharge diminished,  
and

and lubricating; and though we have sometimes been sensible of a good effect, the frequent repetition of them gave considerable uneasiness, by increasing the tenesmus, and this more than counterbalanced any advantage. On this account, in the latter part of our practice, we seldom used them; and it was found, unless they were frequently repeated, any good effect was not perceived. And even then, it was doubtful to us, whether the effect  
was

and turned inoffensive. The ulcer was soon more circumscribed, and even assumed a healing appearance; the discharge at times was very considerable, but it was serous, and without smell. The patient died. In this case a spreading mortification was evidently checked, and a healing appearance even, as evidently took place in the mortified part, although the patient's constitution was so much altered, that he died from debility, and the dropsy connected with it.

Instances of the effects of the fermenting poultice may be seen in the third volume of the Medical Transactions, and in two instances published by Mr. Harrison, a surgeon at Epsom. We are happy in having it in our power to give a testimony in its favour. The preparation we have described, for the reasons given, will be found preferable.

was not accomplished by the other means, which were, at the same time, fulfilling of the treatment.

The most eligible diet, in the Dysentery, consists chiefly of those drinks we have already recommended. Panada, or thick gruel, may be given when the patient requires something a little more substantial, and these may be made palatable with sugar, a small quantity of wine, and nutmeg. Animal preparations should be abstained from, until the termination of the disease.

There is no disease, particularly in those situations in which it is said to have become contagious, where cleanliness is so peculiarly necessary. The greatest attention should be given to the bedding; it ought to be frequently changed, taking care, at the same time, to have it renewed perfectly dry. On this head, as well as on every other where they are concerned, the nurses should be particularly instructed, and the inspection of their conduct is not the least part of the duty of a sur-

geon, in the management of the sick, in a military hospital.

The rooms or wards of an hospital ought to be well ventilated ; but care must be taken not to permit a rush of air upon the patients. The sprinkling of vinegar impregnated with camphor gives a refreshing smell, and it conveys an agreeable impression to the sick. The vinegar is kept longer suspended, and is more diffused, by being raised in vapour. The vinegar may be put into a shallow vessel, as a saucer, which is placed on the top of a common pot containing boiling water. Or, the vinegar may be sprinkled on a hot shovel, brick, or stone. We have mentioned these things with regard to cleanliness and air, not as new, but as too generally neglected ; and the same may be observed, with regard to several other things particularised in these observations.

THESE

THESE are the general intentions, and the means we have found the most successful, in the treatment of the acute Dysentery. When it terminates in the chronic Dysentery of authors, a diversified mode of treatment, according to the various circumstances of the case, is required.

F I N I S.

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In the last line of page 48—*for* the contents of the intestines, *read*, their contents; then add,

(c) Diminishing their sensibility,  
Opium.

( 24 )

[illegible]

1. 2. 3. 4. 5.

[illegible]

1



( 24 )

the fact that the number of people who are able to work has increased by more than 60 million since 1978.

The Chinese government has been successful in creating jobs for its growing labor force. But it has also had to deal with the problem of unemployment. In 1995, there were about 10 million unemployed people in China. This was a big increase from the 1980s, when there were only about 2 million unemployed people. The government has tried to solve this problem by creating new jobs in the private sector. It has also tried to improve the training of workers so that they can find jobs more easily.

China's economic growth has been impressive, but it has also brought some challenges. One of the biggest challenges is the environment. As China's economy grows, it produces more pollution. This has led to problems like smog and water pollution. The government has started to take steps to reduce pollution, but there is still a long way to go. Another challenge is the income gap between rich and poor people. While some people have become very wealthy, many others are still living in poverty. The government is trying to address these issues, but it will take time to see if it succeeds.

China's economic growth has been a major achievement, but it has also brought some challenges. The government has made progress in many areas, but there is still much work to do. We hope that China will continue to grow and develop, and that it will be able to overcome all its challenges.

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1. 2. 3. 4. 5.

[illegible]





